

REMARKS/ARGUMENTS

This Amendment is filed in response to a first Official Action on a Request for Continued Examination (RCE) for the above-identified patent application. The first Official Action now rejects Claims 1-6 and 9-20 under 35 U.S.C. § 102(e) as being unpatentable over U.S. Patent Application Publication No. 2004/0120411 to Walton et al.; and rejects the remaining claims, namely Claims 7 and 8, under 35 U.S.C. § 103(a) as being unpatentable over Walton, in view of the publication, Kyeong Jin Kim & Ronald A. Iltis, *Joint Detection and Channel Estimation Algorithms for QS-CDMA Signals over Time-Varying Channels* (May 2002) (hereinafter "*Kim/Iltis*"). As explained below, Applicant respectfully submits that the claimed invention is patentably distinct from Walton and *Kim/Iltis*, taken individually or in any proper combination. Nonetheless, Applicant has amended various ones of the claims, including canceling Claims 2, 5, 8 and 18, to further clarify the claimed invention; and added new Claims 21-24 to recite further patentable features of the present invention. In view of the amendments to the claims, the added claims, and the remarks presented herein, Applicant respectfully requests reconsideration and allowance of all of the pending claims of the present application.

A. Claims 1-6 and 9-20 are Patentable

According to one claimed aspect of the present invention, as recited by amended independent Claim 1, an apparatus is provided that includes a selector and a decoder. As recited, the selector is configured to select metric calculator values for respective ones of a plurality of channels in a Multiple-Input, Multiple-Output (MIMO) communication system in which transmit data is communicated to a receiving station upon the plurality of channels and received as receive data thereat. In this regard, the metric calculator values selected for at least two of the channels differ from one another.

As also recited, the decoder is configured to separately decode values of the receive data received upon separate ones of the channels. In this regard, for the values of the receive data received upon each of the channels, the decoder is configured to perform path length estimation for the respective channel, including being configured to calculate a path length for each of a number of possible paths upon which to estimate a minimum path length. The number of

possible paths being selected based on the metric calculator value selected for the respective channel.

Briefly, Walton discloses a system and method for performing rate control for data transmission in which a suitable data rate for parallel channels is selected based on estimated channel conditions (signal-to-noise ratios – SNRs). In contrast to amended independent Claim 1, however, Walton (as well as *Kim/Iltis*) does not teach or suggest selecting metric calculator values for channels in a MIMO system for a decoder to perform path length estimation for each of the channels, including calculating path lengths for a number of possible paths selected based on a respective metric calculator value. Applicant notes that in rejecting former dependent Claim 2, the Official Action alleges that Walton discloses performing path length estimation, asserting that Walton discloses a Viterbi decoder that estimates an optimum path length. Even if one could argue that Walton inherently discloses path length estimation via its Viterbi decoder, however, Applicant respectfully submits that Walton does not further teach or suggest that the number of possible paths upon which to estimate the minimum path length is selected based on a metric calculator value, where the metric calculator value for at least two channels differ from one another, as also recited by amended independent Claim 1. In fact, other than disclosing Viterbi decoding, Walton does not teach or suggest any particular manner by which its decoding is accomplished.

Applicant therefore respectfully submits that amended independent Claim 1, and by dependency Claims 3, 4, 6, 7 and 9-14, is patentably distinct from Walton. Applicant also respectfully submits that amended or new independent Claims 15 and 21 recite subject matter similar to amended independent Claim 1, including selecting metric calculator values for channels in a MIMO system for a decoder to perform path length estimation for each of the channels, including calculating path lengths for a number of possible paths selected based on a respective metric calculator value. Accordingly, Applicant respectfully submit that amended or new independent Claims 51 and 21, and by dependency Claims 16, 17, 19, 20 and 22-24, are also patentably distinct from Walton, for at least the same reasons given above with respect to amended independent Claim 1.

For at least the foregoing reasons, Applicants respectfully submit that the rejection of Claims 1-6 and 9-20 as being anticipated by Walton is overcome.

B. Claims 7 and 8 are Patentable

The Official Action rejects Claims 7 and 8 as being unpatentable over Walton in view of *Kim/Iltis*. Applicant respectfully submits, however, that *Kim/Iltis* does not cure the defects of Walton. That is, even considering *Kim/Iltis*, neither Walton nor *Kim/Iltis*, taken individually or in any proper combination, teach or suggest selecting metric calculator values for channels in a MIMO system for a decoder to perform path length estimation for each of the channels, including calculating path lengths for a number of possible paths selected based on a respective metric calculator value, similar to the claimed invention. Accordingly, Applicant respectfully submit that the claimed invention is patentably distinct from Walton and *Kim/Iltis*, taken individually or in any proper combination.

For at least the foregoing reasons, Applicant respectfully submits that the rejection of Claims 7 and 8 as being unpatentable over Walton in view of *Kim/Iltis* is overcome.

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CONCLUSION

In view of the amendments to the claims, the added claims, and the remarks presented above, Applicant respectfully submits that the present application is in condition for allowance. As such, the issuance of a Notice of Allowance is therefore respectfully requested. In order to expedite the examination of the present application, the Examiner is encouraged to contact Applicant's undersigned attorney in order to resolve any remaining issues.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,



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